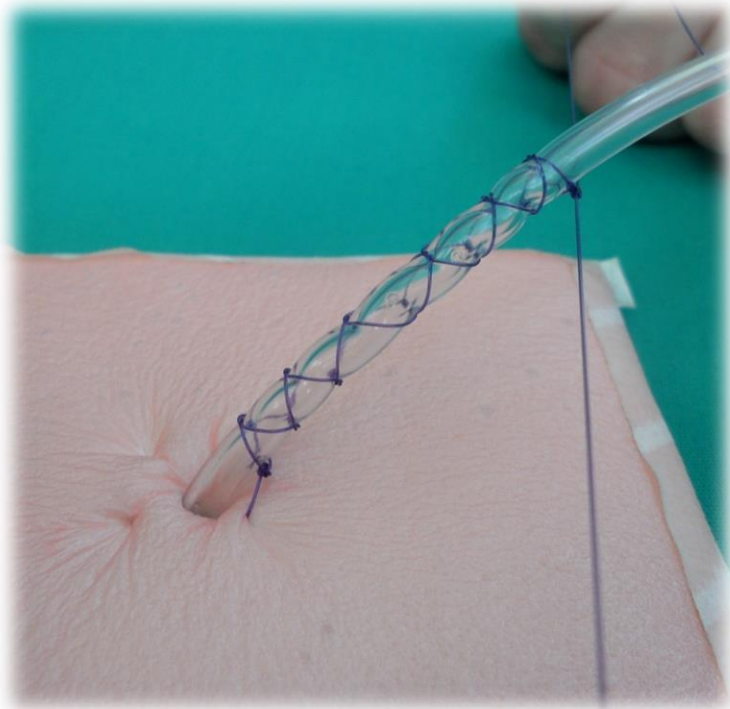


# Roman Sandal Suture



## Disclaimer

A series of booklets has been developed by the Clinical Skills Lab team (staff, recent graduates and students) from the School of Veterinary Sciences, University of Bristol, UK. Please note:

- Each booklet illustrates one way to perform a skill and it is acknowledged that there are often other approaches. Before using the booklets students should check with their university or college whether the approach illustrated is acceptable in their context or whether an alternative method should be used.
- The booklets are made available in good faith and may be subject to changes.
- In using these booklets you must adopt safe working procedures and take your own risk assessments, checked by your university, college etc. The University of Bristol will not be liable for any loss or damage resulting from failure to adhere to such practices.

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Year Group: 4<sup>th</sup> Year +



Equipment for this station:

- Suture material
- Needle
- Roman sandal model
- Mayo scissors
- Suture scissors
- Rat tooth forceps
- Needle holders

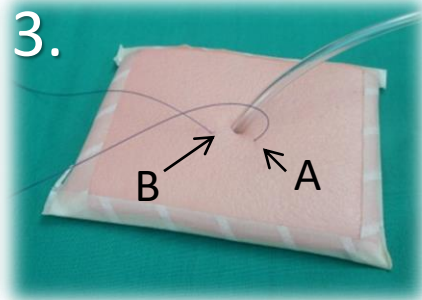
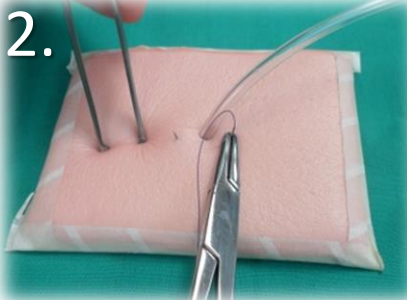
Considerations for this station:

- Needles must be re-used (ask for new needles if blunt)
- Needles are sharp and can cause injury
- Make sure sharps are disposed of in a sharps bin
- Please refer to 'General risk assessment form Needles CSL\_U02'

Please inform a member of staff if equipment is damaged or about to run out.



# Clinical Skills: Roman Sandal Suture

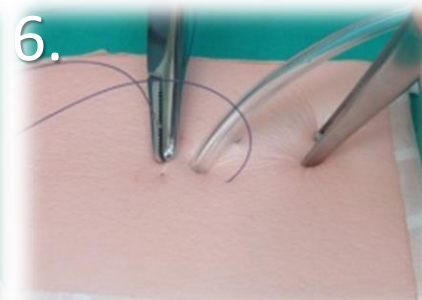
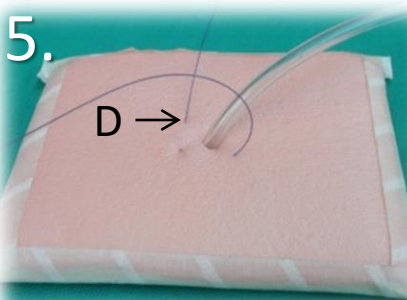
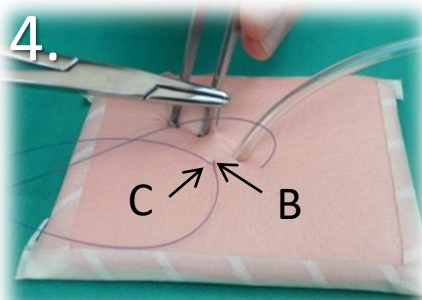
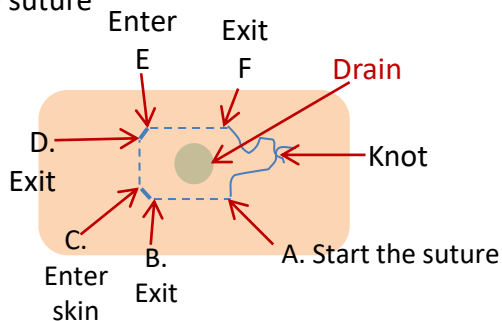


1. Thread a needle with a length of suture material (In real life you would probably use a monofilament such as Monosof). Suture a mattress style suture around the 'drain' as shown.

Mattress sutures are preferred to a simple suture because they spread the tension and so are less likely to cut off the blood supply and cause necrosis.

2. It is best to aim to have your knot on the side the drain is hanging i.e to the right in this picture. Start the suture at point A.

3. Exit at point B.



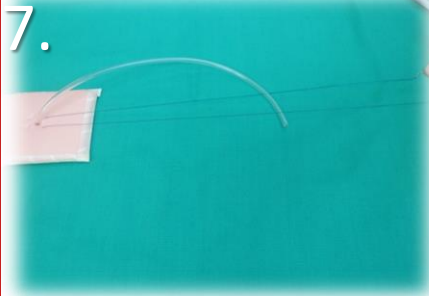
4. Position your needle to enter the skin (point C) as close as you can to the exit hole of the 1<sup>st</sup> part of the suture (B). Aim to create a right angle with the 1<sup>st</sup> part of the suture.

5. Exit at point D.

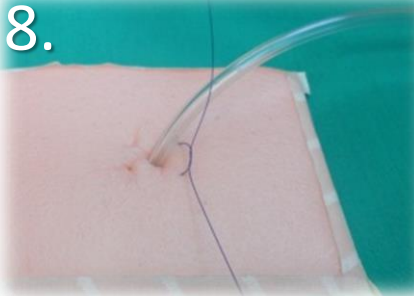
6. Reposition the needle to enter the skin at point E. This time create a right angle to length C-D of the suture, and parallel to length A-B of the suture. In effect you will create a purse string when you tie the knot. Exit at point F.



# Clinical Skills: Roman Sandal Suture



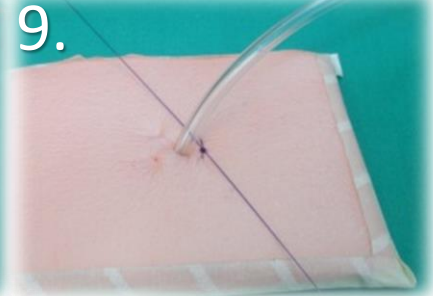
7. Now the mattress suture is placed you need to ensure that both ends of the suture material are even lengths.



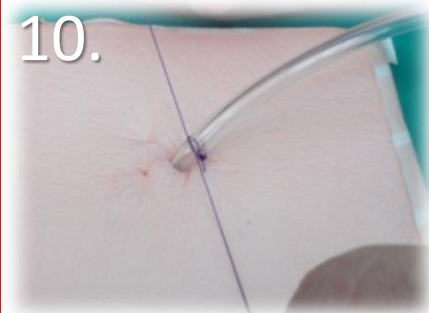
8. Tie a square knot between the 2 ends of suture material so you encompass the drain in the middle.

For information on square knots refer to:

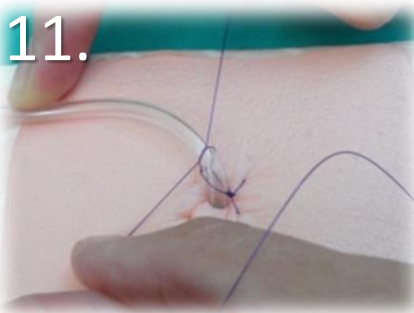
CSL\_S09 Instrument Tie or  
CSL\_S10 One Handed Tie



9. Secure with 3 throws, or as you would for a mattress suture with that suture material.



10. Flip the drain to one side and bring the suture material around to the side that is away from the skin to create a criss-cross pattern. Place a single throw on the opposite side to the 1<sup>st</sup> knot.



11. Repeat step 10 by flipping the drain, again placing a single throw, this time on the same side as the original knot.

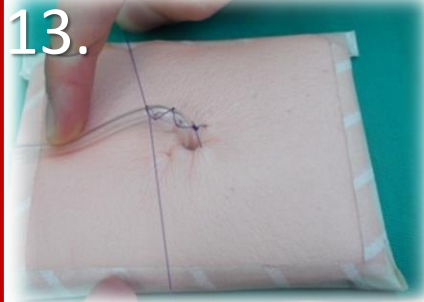
Make sure the suture material is tight enough to indent the drain, as this allows the suture material to grip and hence is less likely to slip down.



12. Repeat; you need to try and make sure there is at least 0.5cm between each criss-cross on the drain.



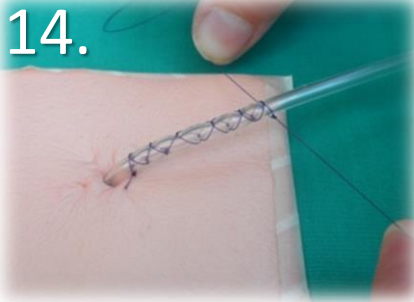
# Clinical Skills: Roman Sandal Suture



13.

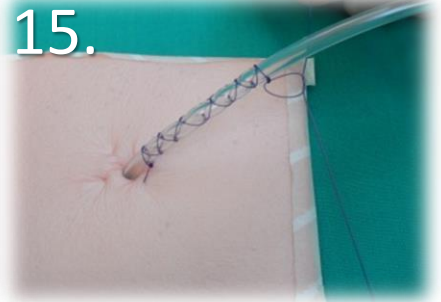
Continue up the drain so you have at least 5 levels on each side of the drain.

Each time you flip the drain, ensure you keep the tension on the suture material to prevent the throw you have just made from loosening.



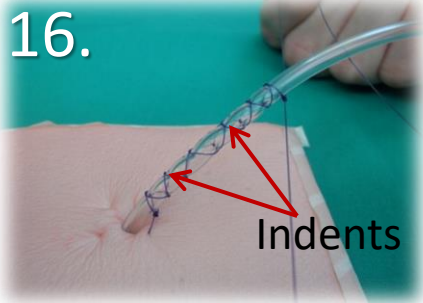
14.

On the final level tie the Roman sandal off securely with a square knot.



15.

You will need 3 throws to secure the Roman sandal.



16.

Indents

Make sure the knot is secure. You can see the indents slightly in this picture, you need to indent the tube enough to allow the suture material to grip but not to occlude the lumen.

Using mayo scissors cut the free ends of the suture material to 1cm long.



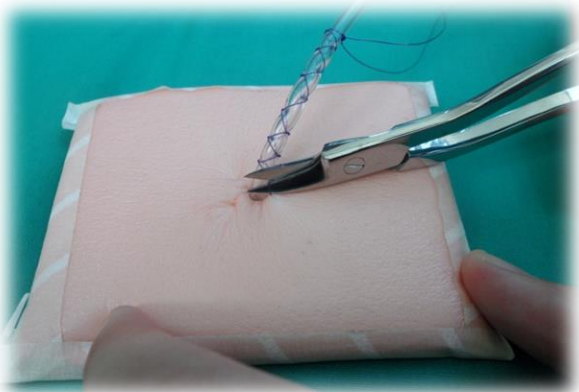


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## Resetting the station: Roman Sandal Suture

1. Take the suture scissors and cut away the suture material from the 'skin' as shown, then you should be able to unwrap the suture material from the drain.
2. Dispose of any suture material and place the needle back in the tray.

*Station ready for the next person:*



Please inform a member of staff if equipment is damaged or about to run out.



- When tying in the Roman sandal suture, you should use a single throw every side of the drain. You should not tie knots on every other side. This defeats the object of the Roman sandal and will allow the drain to slide out. The Roman sandal works because if you apply tension to the drain all of the suture material will constrict the drain hence holding it in place. The suture is of a fixed length, hence by pulling the drain the suture material cannot lengthen, only grip, by each throw sliding over one another. The harder you pull the drain the tighter the suture material will grip.
- Make sure that each 'criss-cross' on the drain is at least 0.5cm apart, if they become too close each throw tends to slip down the drain, as the suture is of fixed length the suture will now loosen.
- The Roman sandal suture has also been known as a Finger Trap suture.